REMARKS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-20 are presently active in this case. The present Amendment amends Claims 1-10 and 12-20 without introducing any new matter.

In the outstanding Office Action, Claims 1 and 4-20 were rejected under 35 U.S.C. §103(a) as unpatentable over King et al. (U.S. Patent No. 6,429,808, herein "King") in view of Clark (U.S. Patent No. 5,982,897). Claims 2-3 were rejected under 35 U.S.C. §103(a) as unpatentable over King and Clark and further in view of Knockeart et al. (U.S. Patent No. 6,621,452, herein "Knockeart").

To better comply with U.S. claim drafting practice and to correct minor formalities in the claims, Claims 1-10 and 12-20 are amended. Since the changes are only formal in nature, they are not believed to raise a question of new matter.

In response to the rejection of Claims 1 and 4-20 under 35 U.S.C. §103(a), Applicant respectfully submits that both references King and Clark used by the outstanding Office Action to form the 35 U.S.C. §103(a) rejection, fail to disclose all the features of independent Claims 1, 15 and 19, as next discussed.

The outstanding Office Action asserts that King teaches the emitting from a set of ground stations periodically renewed client transformation functions which are addressed respectively to each satellite.[1] Applicant respectfully disagrees, since King discloses a satellite positioning system wherein a base station *receives signals from multiple GPS satellites* and generates assistance data which are selectively sent to mobile stations (handsets).[2] King also describes that the mobile stations use a ciphering key to decipher

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[1] See the outstanding Office Action at page 2, lines 22-25.
[2] See King at column 4, lines 43-67, column 5, lines 1-13, and Figure 1.

location assistance data periodically broadcasted by a network.[3] King explains that the

network using the ciphering key is e.g. a cellular communication network,[4] the cellular

network *not* including the GPS satellite. King's ciphering key is exclusively applied to the

assistance data, which are data exchanged between mobile stations and the ground network.

Accordingly, King fails to teach or suggest transmission of "periodically renewed

direct transformation functions," from a ground station to positioning satellites, as recited in

Applicant's Claim 1.

Moreover, contrary to the outstanding Office Action's statement,[5] King fails to teach

or suggest *applying a direct transformation function received by each satellite* (and emitted

by a ground station) to encode the positioning signals emitted therefrom, as further recited in

independent Claim 1. King describes a location service (LCS) for a GSM network.[6] King

further explains that mobile stations can request a ciphering key for assistance data messages

broadcast periodically by a network. King's Figure 1 and King's specification at column 5,

lines 1-24 teach that the network using the ciphering key is e.g. a cellular communication

network and does not include GPS satellites. As shown above, King's ciphering key is

exclusively applied to the assistance data, which are data exchanged between the mobile

station and the ground network.[7] Furthermore, King fails to teach or suggest applying by

positioning satellites of a direct transformation function, and particularly of a periodically

renewed direct transformation function emitted by a ground station.

Moreover, contrary to the outstanding Office Action statement at page 3, lines 4-5,

King fails to teach or suggest the transmission of transformation functions applied by the

satellites *upon each request from a user receiver addressed to a user servicing station*.

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[3] See King at column 8, lines 45-52.
[4] See King at column 5, lines 1-24 and in Figure 1.
[5] See the outstanding Office Action at page 2, lines 22-25.
[6] See King at column 6, lines 1-15.
[7] See King at column 8, lines 35-47.

Instead, King describes at column 6, lines 16-26 that the main task of the serving mobile location center SMLC 112 is to support the location function.

The outstanding Office Action acknowledges that King fails to teach or suggest the claimed features regarding verifying the user to have a privileged-user status. However, the outstanding Office Action asserts that Clark teaches such a feature,[8] and that the combination of King and Clark is proper. In this respect, Applicant respectfully submits that Clark also fails to disclose these features.

Clark discloses a method wherein satellites continuously broadcast a periodic key (i.e. a reverse transformation that is inverse to a direct transformation functions applied at the satellites).[9] Continuously broadcasting a periodic key by satellites, as taught by Clark, *is not* a request from the user receiver to a user servicing station to verify if the user receiver has privileged user status, as recited in independent Claim 1.

In a particular embodiment, Clark discloses a method wherein said periodic key (i.e. the reverse transformation function) is itself encrypted.[10] Clark also discloses a registration procedure wherein a decryption key is distributed to users having a privileged status, but this key is not directly the reverse transformation function including an interpretation key for interpreting positioning signals by applying said reverse transformation functions for decoding them. Instead, this key is a registration key allowing the privileged users to decrypt the actual reverse transformation function ("periodic key" in Clark's wording).

In Clark, the *satellites* themselves ***broadcast the reverse transformation function***, independently from any request from users. The reverse transformation function is itself encrypted, and only registered users can decrypt it, thanks to their registration key.

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[8] See the outstanding Office Action at page 3, lines 8-13.
[9] See Clark at column 5, line 57 to column 6, line 27.
[10] See Clark at column 6, lines 43-52.

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In the Applicants' Claim 1, users actively request the specific delivery of the actual reverse transformation function from a user servicing station, which has full power to refuse at any moment the delivery of the reverse transformation function on the basis of the user non-compliance with his declared mission, even if the user holds a valid registration code.

In Clark's system and method, the period of use of the registration key needs to have a much longer period of use than the reverse transformation function ("periodic key" in Clark's wording).[11] Therefore, once the registration key has been distributed, the system manager has no possibility of preventing the registered user of accessing the high-precision navigational data, even if the registered user starts acting in an unauthorized way.

As a non-limiting example in the context of Claim 1, if the user is a civil airplane which receives, before taking-off, a registration key which is valid during all the scheduled flight time, and the airplane exits the authorized flight path, it will still benefit from the high-precision navigational data, even if for example it has been hijacked by terrorists who intend to use it as a projectile against a ground target identified by its GPS coordinates, and the only way to prevent that would be to perform an unscheduled change of the code used for encoding the decryption key. This would affect all the registered users, by making their registration keys useless.

However, the registered user has to ask for the reverse transformation function every time he needs to access the high-precision navigational data. He cannot rely on a previously obtained reverse transformation function, because the direct transformation function could have changed since the last time he received such a function. At each request, the identity and behavior of the user can be checked, and it can be easily declared non-privileged on the basis of the user non-compliance with his declared mission even if he owns a regular

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[11] See Clark at column 6, lines 44-46.

registration key, while all other privileged users will continue to benefit normally of the positioning service.

Furthermore, Applicant respectfully submits that any reference must be considered in its entirety, i.e. as a whole, including portions that would lead away from the claimed invention. W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303; citation from MPEP §2141.02, pages 2100-2127). Therefore, it is not permitted to extract features from a prior art document (e.g. Clark) without taking into due account the overall teaching of said document.

In view of the above remarks, Applicant respectfully submits that King and Clark, taken individually or in combination, fail to disclose the features of independent Claims 1, 15 and 19.

In addition, Applicant believes that King is not analogous art to the present invention. Applicant respectfully submits that in order to rely on a reference under 35 U.S.C. §103, it must be analogous prior art (MPEP §2141.01(a)). To be considered "analogous prior art," a reference must either be in the field of the applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned (In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ 2d 1443, 1445, citation from MPEP §2141.01(a)).

The field of Applicant's disclosure is a system and method of positioning by satellites, wherein the interpretation of positioning signal is reserved to selected users, while other users are intentionally deprived of this interpretation. However, the reference King is concerned with an assisted positioning system wherein the integrity of location determination is monitored against various conditions such as undetected satellite failures.[12]

Applicant considers that the field of satellite positioning methods and systems would be too broad and general to define a common "field of endeavor" between Applicant's

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[12] See King, for example at column 1, lines 15-18 and at column 3, lines 15-45.

invention and <u>King</u>. The Applicant refers, by analogy, to Wang Laboratories Inc. v. Toshiba

Corp., 993 F.2d 858, 26 USPQ2d 1767, where it has been decided that memory modules for

an industrial controller were not necessarily in the same field of endeavor as memory

modules for installation on a printed circuit motherboard for use in personal computers (see

MPEP §2141.01(a), page 2100-2124).

Therefore, Applicant believes that <u>King</u> is not analogous art to the present invention,

and therefore <u>King</u> cannot serve as a basis for an obviousness-type rejection.

Applicant also submits that, to establish *prima facie* obviousness, there must be some

suggestion, either in the references themselves or in the knowledge generally available to one

of ordinary skill in the art, to modify the reference to combine reference teaching (citation

from MPEP, §2142, page 2100-128 and §2143.01, page 2100-129). In the present case, <u>King</u>

deals with an assisted positioning system wherein the integrity of location determination is

preserved despite various adverse conditions such as undetected satellite failures,[13] while

<u>Clark</u> deals with a satellite positioning system with selective access and denial of the

reception of encrypted high precision navigational data.[14] <u>King</u> and <u>Clark</u> solve completely

different and unrelated problems and therefore there is no suggestion available to one of

ordinary skill in the art to combine their teaching *in arguendo* without inadmissible hindsight.

Even if the combination of <u>King</u> and <u>Clark</u> is proper, the combination fails to teach or

suggest all the features of the independent claims, as discussed above.

Regarding the rejection of the dependent claims under 35 U.S.C. §103(a), Applicant

submits that <u>Knockeart et al.</u> is also not analogous art to the present invention and cannot be

combined with the teaching of <u>King</u> and/or <u>Clark</u>. In <u>Knockeart</u>, the purpose for declaring a

mission for each vehicle and monitoring the movement of these vehicles equipped with a

GPS and a wireless link to a central server is to allow a re-planning of a new route for a

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[13] See <u>King</u> at column 1, lines 15-18 and column 3, lines 15-45.
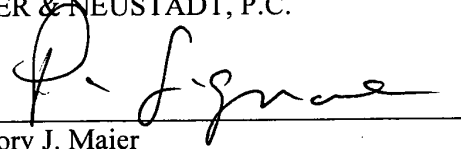[14] See <u>Clark</u> at column 1, lines 7-9.

vehicle when it has got lost, thereby allowing the optimization by a company of the use of a fleet of vehicles. Knockeart fails to remedy the deficiencies of King and Clark, since it cannot prevent the access to satellite positioning services. Accordingly, Applicant also respectfully traverses the rejection of dependent Claims 2-3 and request reconsideration of this rejection.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 1-20 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicant's undersigned representative at the below listed telephone number.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.

Gregory J. Maier
Attorney of Record
Registration No. 25,599

Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)

Philippe J.C. Signore
Registration No. 43,922

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